

JAN 13 2003

Page 1 of 6

Form PTO-1449 U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.
0575/62948/JPW/BJA

Serial No.
09/823,181

INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

Applicant:
Jingyue Ju et al.

Filing Date:
March 30, 2001

Group Art Unit
1634

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
Ac	4 8 2 4 7 7 5	4/25/89	Dattagupta			
	5 1 1 8 6 0 5	6/2/1992	Urdea			
	5 3 0 2 5 0 9	12/4/94	Cheeseman			
	5 6 5 4 4 1 9	8/5/97	Mathies			
	5 7 2 8 5 2 8	3/17/1998	Mathies			
	5 7 7 0 3 6 7	6/23/1998	Southern			
	5 8 0 4 3 8 6	9/8/98	Ju			
	5 8 1 4 4 5 4	10/29/98	Ju			
	5 8 3 4 2 0 3	11/10/98	Katzir			
	5 8 5 3 9 9 2	12/29/98	Glazer			
	5 8 6 9 2 5 5	2/9/1999	Mathies			
	5 9 4 5 2 8 3	8/31/1999	Kwok			
	5 9 5 2 1 8 0	9/14/1999	Ju			
	6 0 2 8 1 9 0	2/28/2000	Mathies			
	6 3 1 6 2 3 0	11/13/01	Egholm			

RECEIVED
JAN 15 2003
TECH CENTER 1600/2900

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation
					Yes No
WO 02 0 7 9 5 1 9	4/11/02	PCT			
WO 0 2 2 2 8 8 3	3/21/02	PCT			
WO 0 2 2 9 0 0 3	10/10/02	PCT			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Ac	Fei, Z. et al. (1998) MALDI-TOF mass spectrometric typing of single nucleotide polymorphisms with mass-tagged ddNTPs. Nucleic Acids Research 26(11):2827-2828 ;
Ac	Olejniak, J. et al (1999) Photocleavable peptide-DNA conjugates: synthesis and applications to DNA analysis using MALDI-MS. Nucleic Acids Res. 27(23):4626-4631;

EXAMINER

DATE CONSIDERED

Aron Kr. Chafal

2/20/03

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.
0575/62948/JPW/BJA

Serial No.
09/823,181

INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

Applicant:
Jingyue Ju et al.

Filing Date:
March 30, 2001

Group Art Unit
1634

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation	
					Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	Axelrod V.D., et al. (1978) Specific termination of RNA polymerase synthesis as a method of RNA and DNA sequencing. <i>Nucleic Acids Res.</i> 5(10): 3549-3563;
	Badman, E. R. et al. (2000) A Parallel Miniature Cylindrical Ion Trap Array. <i>Anal. Chem.</i> 72:3291-3297;
	Badman, E. R. et al. (2000) Cylindrical Ion Trap Array with Mass Selection by Variation in Trap Dimensions. <i>Anal. Chem.</i> 72:5079-5086;
	Benson, S. C., Mathies, R. A. and Glazer, A. N. (1993) Heterodimeric DNA-binding dyes designed for energy transfer: stability and applications of the DNA complexes. <i>Nucleic Acids Res.</i> 21: 5720-5726;
	Benson, S. C., Singh, P. and Glazer, A. N. (1993) Heterodimeric DNA-binding dyes designed for energy transfer: synthesis and spectroscopic properties. <i>Nucleic Acids Res.</i> 21: 5727-5735;
	Burgess, K. et al. (1997) Photolytic Mass Laddering for Fast Characterization of Oligomers on Single Resin Beads. <i>J. Org. Chem.</i> 62:5662-5663;
	Canard B., et al. (1995) Catalytic editing properties of DNA polymerases. <i>Proc. Natl. Acad. Sci. USA</i> 92: 10859-10863;
✓	Caruthers M.H. (1985) Gene synthesis machines: DNA chemistry and its uses. <i>Science</i> 230: 281-285;
AC	Chee M., et al. (1996) Accessing genetic information with high-density DNA arrays. <i>Science</i> 274: 610-614;

EXAMINER

DATE CONSIDERED

Anu Kr. Chakraborty

2/20/03

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.

0575/62948/JPW/BJA

Serial No.

09/823,181

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Applicant:

Jingyue Ju et al.

Filing Date:

March 30, 2001

Group Art Unit

1634

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation	
					Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- Chen, X. and Kwok, P.-Y. (1997) Template-directed dye-terminator incorporation (TDI) assay: a homogeneous DNA diagnostic method based on fluorescence resonance energy transfer. *Nucleic Acids Res.* 25: 347-353;
- Edwards, J. et al. (2001) DNA sequencing using biotinylated dideoxynucleotides and mass spectrometry. *Nucleic Acids Res.* 29(21):e104;
- Griffin, T.J. et al. (1999) Direct Genetic Analysis by Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. *Proc. Nat. Acad. Sci. USA* 96:6301-6306;
- Hacia J.G., Edgemon K., Sun B., Stern D., Fodor S.A., Collins F.S. (1998) Two Color Hybridization Analysis Using High Density Oligonucleotide Arrays and Energy Transfer Dyes. *Nucleic Acids Res.* 26: 3865-6;
- Haff L.A., et al. (1997) Multiplex Genotyping of PCR Products with Mass Tag-Labeled Primers. *Nucleic Acids Res.* 25(18):3749-3750 ;
- Hyman E.D. (1988) A new method of sequencing DNA. *Analytical Biochemistry* 174: 423-436;
- Ireland R.E., and Varney M.D. (1986) Approach to the total synthesis of chlorothricolide - synthesis of (+/-)-19.20-dihydro -24-O-methylchlorothricolide, methyl-ester, ethyl carbonate. *J. Org. Chem.* 51: 635-648;
- Jiang-Baucom, P. et al. (1997) DNA Typing of Human Leukocyte Antigen Sequence Polymorphisms by Peptide Nucleic Acid Probes and MALDI-TOF Mass Spectrometry. *Anal. Chem.* 69:4894-4896;
- Ju J., Glazer, A.N. and Mathies, R.A. (1996) Energy transfer primers: A new fluorescence labeling paradigm for DNA sequencing and analysis. *Nature Medicine* 2: 246-249.;

EXAMINER

DATE CONSIDERED

Anne Kr. Chakrabarti

2/20/03

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-149

INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.
0575/62948/JPW/BJA

Serial No.
09/823,181

Applicant:
Jingyue Ju et al.

Filing Date:
March 30, 2001

Group Art Unit
1634

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation
					Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	Ju J., Ruan C., Fuller, C.W., Glazer, A.N. and Mathies, R.A. (1995) Fluorescence energy transfer dye-labeled primers for DNA sequencing and analysis. <i>Proc. Natl. Acad. Sci. USA</i> 92: 4347-4351;
	Kamal A., Laxman E., Rao N.V. (1999) A mild and rapid regeneration of alcohols from their allylic ethers by chlorotrimethylsilane/sodium iodide. <i>Tetrahedron Lett.</i> 40: 371-372;
	Lee L.G., et al. (1992) DNA sequencing with dye-labeled terminators and T7 DNA polymerase: effect of dyes and dNTPs on incorporation of dye terminators and probability analysis of termination fragments. <i>Nucleic Acids Res.</i> 20: 2471-2483;
	Lee, L.G. et al. (1997) New energy transfer dyes for DNA sequencing. <i>Nucleic Acids Res.</i> 25: 2816-2822;
	Li, J., (1999) Single Oligonucleotide Polymorphism Determination Using Primer Extension and Time-of-Flight Mass Spectrometry. <i>Electrophoresis</i> , 20:1258-1265;
	Liu, H. et al., (2000) Development of Multichannel Devices with an Array of Electrospray Tips for High-Throughput Mass Spectrometry. <i>Anal. Chem.</i> 72:3303-3310;
	Lyamichev, A. et al. (1999) Polymorphism Identification and Quantitative Detection of Genomic DNA by Invasive Cleavage of Oligonucleotide Probes. <i>Nat. Biotech.</i> 17:292-296;
	Metzker M.L., et al. (1994) Termination of DNA synthesis by novel 3'-modified deoxyribonucleoside 5'-triphosphates. <i>Nucleic Acids Res.</i> 22: 4259-4267;
AC	Olejniak J., et al. (1995) Photocleavable biotin derivatives: a versatile approach for the isolation of biomolecules. <i>Proc. Natl. Acad. Sci. USA.</i> 92: 7590-7594;

EXAMINER

DATE CONSIDERED

2/20/03

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
0575/62948/JPW/BJASerial No.
09/823,181Applicant:
Jingyue Ju et al.Filing Date:
March 30, 2001Group Art Unit
1634INFORMATION DISCLOSURE CITATION
(Use several sheets if necessary)

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation
					Yes No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	Pelletier H., Sawaya M.R., Kumar A., Wilson S.H., Kraut J. (1994) Structures of ternary complexes of rat DNA polymerase β , a DNA template-primer, and ddCTP. <i>Science</i> 264: 1891-1903;
	Prober J.M., Trainor G.L., Dam R.J., Hobbs F.W., Robertson C.W., Zagursky R.J., Cocuzza A.J., Jensen M.A., Baumeister K. (1987) A system for rapid DNA sequencing with fluorescent chain-terminating dideoxynucleotides. <i>Science</i> 238: 336-341;
	Ronaghi M., Uhlen M., Nyren P. (1998) A sequencing Method based on real-time pyrophosphate. <i>Science</i> 281: 364-365;
	Rosenblum, B.B. et al. (1997) New dye-labeled terminators for improved DNA sequencing patterns. <i>Nucleic Acids Res.</i> 25: 4500-4504;
	Ross, P. et al. (1998) High Level Multiplex Genotyping by MALDI-TOF Mass Spectrometry. <i>Nat. Biotech.</i> 16:1347-1351;
	Ross, P.L. et al. (1997) Discrimination of Single-Nucleotide Polymorphisms in Human DNA Using Peptide Nucleic Acid Probes Detected by MALDI-TOF Mass Spectrometry. <i>Anal. Chem.</i> 69:4197-4202;
	Saxon E. and Bertozzi C.R. (2000) Cell surface engineering by a modified Staudinger reaction. <i>Science</i> 287: 2007-2010;
	Schena M., Shalon D., Davis, R. Brown P.O. (1995) Quantitative monitoring of gene expression patterns with a complementary DNA microarray. <i>Science</i> 270: 467-470;
	Speicher, M.R., Ballard, S.G. and Ward, D.C. (1996) Karyotyping human chromosomes by combinatorial multi-fluor FISH. <i>Nature Genetics</i> 12: 368-375;
AC	Stoerker J. et al. (2000) Rapid Genotyping by MALDI-monitored nuclease selection from probe libraries. <i>Nat. Biotech.</i> 18:1213-1216;

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Atty. Docket No.
0575/62948/JPW/BJA

Serial No.
09/823,181

Filing Date:
March 30, 2001

Group Art Unit
1634

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

Document Number	Date	Country	Class	Subclass	Translation	
					Yes	No
1 5 2003						
TER 1600 2000						

AC Welch M.B., Burgess K. (1999) Synthesis of fluorescent, photolabile 3'-O-protected nucleoside triphosphates for the base addition sequencing scheme. *Nucleosides and Nucleotides* 18:197-201;

AC	Woolley, A. T. et al. (1997) High-Speed DNA Genotyping Using Microfabricated Capillary Array Electrophoresis Chips. Anal. Chem. 69:2181-2186; and
----	---

U.S. Serial No. 09/658,077, filed September 11, 2000.

EXAMINER

DATE CONSIDERED

***EXAMINER:** Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.